

CLAIMS

1 WHAT IS CLAIMED IS:

2 3 1. A valve for discharging liquid from a container having a wall defining thereon
3 4 an outlet, comprising:

5 5 a valve body having a top surface, a bottom surface and a side surface, the valve
6 6 body defining a passageway therein and attachable to the container so as to
7 7 form a sealing contact around the outlet;
8 8 a stopper movable between an open and closed positions, the stopper preventing
9 9 fluid flow through the passage way when the stopper is in the closed
10 10 position, and permitting fluid flow through the passageway when the
11 11 stopper is in the open position, the passageway being in fluid
12 12 communication with the outlet when the valve body is attached to the
13 13 container, and the stopper is in the open position; and
14 14 an elastic rib integrally formed with the valve body and the stopper, the elastic rib
15 15 having an adequate length to maintain the stopper in the first position
16 16 absent external forces.

17 17 2. The valve of claim 1, wherein the elastic rib is in a stretched state when the
18 18 stopper is in the closed position, and the elastic rib being stretched further when the
19 19 stopper is in the open position than when the stopper is in the closed position.

20 20 3. The valve of claim 1, wherein the valve body is substantially cylindrical and the
21 21 passageway is disposed substantially along the longitudinal axis of the valve body.

22 22 4. The valve of claim 3, wherein the elastic rib defines a first end integrally
23 23 formed with the bottom surface of the valve body and a second end integrally formed with
24 24 the stopper, and wherein the elastic rib extends through the passageway.

1 5. The valve of claim 3, further comprising an elastic stem interconnecting the
2 elastic rib and the stopper.

3 6. A valve for discharging liquid from a container having a wall defining thereon
4 an outlet, comprising:

5 a valve body having a top surface, a bottom surface and a side surface, the valve
6 body defining a passageway therein and attachable to the container so as to
7 form a sealing contact around the outlet, the passageway being in fluid
8 communication with the outlet when the valve body is attached to the
9 container;

10 a flexible barrier having a thickness and integrally formed with the valve body, the
11 barrier interrupting the passageway and defining a slit through the
12 thickness, the barrier being sufficiently resilient to prevent the liquid flow
13 through the slit from the container under the weight of the water inside the
14 container.

15 7. The valve of claim 6, wherein the slit comprises a plurality of slits.

16 8. The valve of claim 6, wherein the slit is generally H-shaped.

17 9. The valve of claim 6, wherein the slit is generally C-shaped.

18 10. The valve of claim 6, wherein the slit is generally T-shaped.

19 11. A humidifier water bottle assembly including a valve for discharging liquid
20 therefrom, comprising:

21 a flexible member defining a base and a generally cylindrical sidewall extending
22 from the base, the sidewall having an outer surface;

1 a container defining an outlet having generally cylindrical collar, the flexible
2 member removably received within the collar such that the outer surface of
3 the flexible member sidewall seals against the collar when the base is in a
4 first undeformed position;

5 the sidewall defining at least one opening therethrough, wherein when the base is
6 deformed from the first position, the sidewall is pulled away from the collar
7 so as to allow fluid flow through the opening.

8 12. A humidifier water bottle assembly including a valve for discharging liquid

9 therefrom, comprising:

10 a container defining a fluid outlet; and

11 a flexible member having first and second ends, the first end being attached to the
12 container;

13 the second end defining a stopper, extending through the outlet in a sealing
14 relationship, the stopper being positioned to be displaced from the outlet
15 when the container is received in a humidifier mechanism.

16 13. The water bottle assembly of claim 12, wherein the bottle defines a second

17 opening therethrough, and wherein the flexible member first end defines a bulb extending
18 therefrom received in the second opening so as to seal the second opening and attach the
19 flexible member to the container.

20 14. A valve for discharging liquid from a container having a wall defining thereon

21 an outlet, comprising:

22 a cap removably attachable to the container so as to form a sealing relationship

23 with the outlet, the cap defining a passageway therein; and

24 a flexible member having first and second ends, the first end being attached to the
25 cap;

1 the second end defining a stopper extending through the passageway in a sealing
2 relationship, the stopper being positioned to be displaced from the
3 passageway when the container is received in a humidifier mechanism.

4 15. The valve of claim 14, wherein the cap defines a second opening therethrough,
5 and wherein the flexible member first end defines a bulb extending therefrom received in
6 the second opening so as to seal the second opening and attach the flexible member to the
7 cap.